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## THE NEGATIVE ASPECT OF HALLUCINATIONS.

(From the Psychological Laboratory of the University of  
Pennsylvania.)

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In an article on "The Psychology of Hallucinations" published in the Journal of Mental Science, October, 1904, Dr. W. H. B. Stoddard elaborates a theory of hallucinations which is largely based upon the belief, that while an individual is experiencing an hallucination he is incapable of experiencing a sensation or perception of the same modality. He holds that there is no physical difference between the processes of perception, ideation, illusion and hallucination; that they each depend upon an excitation of sensory centres, but that in each case the stimulation of these centres is from a different source. For perception the stimulation is peripheral, for ideation central (while a simultaneous process of perception may be in progress), for illusion it is both central and peripheral, and for hallucinations it is central alone, with absolutely no accompanying peripheral stimulation. With hallucinations, he believes, there is a dissociation of the sensory centres affected from the neurons which, normally, conduct to them stimulation from the sense organs.

Dr. Stoddard bases his theory on an eighteen months study of the subject, during which he found no case where an hallucination was accompanied by perceptions of the same modality. Every hallucinatory process has, he thinks, two sides, a positive side which results in the hallucinatory image and a negative side which prevents simultaneous perception by the same centre.

Bearing Dr. Stoddard's theory in mind, I have carefully studied the phenomena of hallucination as they appear in many patients of the Friends' Asylum for the Insane, Frankford.

I have found that the negative factor is not invariably present. In many cases it is evident, in many more it is most difficult to determine whether it is present or not, but in a few it is unmistakably absent. These few cases I shall describe in detail.

The first case is that of a young girl who is almost continually distracted by voices. I endeavored to hold her attention by reading to her. This I could do but for a moment, when she turned distractedly away to answer some threatening voice. I continued to read, and, later, when her attention returned to

me, I asked her whether I had been reading while she was holding this conversation. She answered, "Yes, I heard you read, but I could not understand a word you said; won't you stop their talk, so that I may listen to you?"

The next case is that of a woman who spends most of her time talking to imaginary people, whom she seems to see as well as hear. She has frequently made me a third party in these conversations, answering my questions and referring what she hears to me. At other times, however, I have failed entirely, in spite of repeated efforts, to gain her attention.

Another woman will usually answer my questions when in the midst of a conversation with the unseen, but at times I have spoken to her in a loud voice and even shaken her without effect.

A fourth woman was leaning forward in eager attention one day listening to a conversation, snatches of which she would repeat to me, saying—"Hush, I shall tell you later!" A nurse entered the room making a slight noise, when she said peremptorily—"Will you please be still, that I may hear this conversation."

These four cases are, undoubtedly, true examples of genuine auditory hallucinations. In every case the patients were able to identify the speakers.

They seem to be good evidence that all hallucinations are not negative in character.

In a study of visual hallucinations, the result was the same. Sometimes the negative side was evident, and sometimes the immediate surroundings formed the setting for the hallucinations.

These facts seem to call for some other explanation than that offered by the theory of dissociation of peripheral tracts. An adequate hypothesis must explain equally well an hallucinatory process possessing the negative characteristic and one that does not; and should, moreover, demonstrate why this negative factor is sometimes present and sometimes missing.

Is it not possible to find such an explanation in the variability of the degree and span of attention?

If the visual or auditory centres are in a state of great activity, initiated by central stimulation, it is quite possible that the accompanying ideas or images may absorb the whole attention to the utter exclusion of all other sensations. In such a condition there would be no physiological dissociation, the phenomena would be the result of a concentration and limitation of the attention.

An analogous condition is that of the normal individual when he is engrossed by a book or some line of thought to such an extent that he becomes oblivious to his surroundings. It is

sometimes nearly impossible to gain a scholar's attention, and ordinarily intelligent individuals often become so absorbed in a novel that it takes repeated calls to arouse them.

When hallucinations occur it appears to me that this condition is only carried one step further. The isolated idea which in the normal individual is felt to be internal, that is, a part of himself, of his ego, is now thought to be a foreign phenomenon, a part of the non-ego of the external world.

As Stoddard says, every perception of an object and also every idea of an object has certain space relations, and is always projected and localized in space to some extent. In such a mental condition as that above described, the idea, with all its local character, is strong enough to predominate over actual peripheral stimulation arising from the same place in space. Such a projected perception or idea centrally aroused differs not at all in character from a similar perception aroused by peripheral stimulation, and to the experiencing individual it is equally real.

With a normal individual the mental content is so complex that it is usually impossible for one idea to absorb the attention to the extent necessary for the production of hallucinations; a balance is maintained among the many psychic phenomena. When many brain centres are simultaneously active they exercise an inhibitory effect one upon the other and prevent undue activity of any one centre.

With the insane, on the contrary, it is a well recognized fact that the mental life is characterized by a monotonous repetition of some one line of thought. Certain brain centres are constantly active, while others are sluggish or entirely inert.

As attention depends upon the mental content, being strong where this content is rich and vivid, and weak where it is impoverished, such a mental state is favorable to the limitation of the attention to one line of thought and also to great concentration upon it.

If this limitation of the attention is very marked and the hallucinatory idea is strong enough to completely fill its span, the negative character of the phenomenon will be manifest. If, on the other hand, the span of attention is a little more extensive and the hallucinatory idea does not completely fill it, other sensations and perceptions may accompany it.

Hallucinations, then, may depend upon an abnormal activity of certain brain centres coupled with a diminution of activity of the other brain centres, or in psychical terms, on a concentration and limitation of the attention.

An hallucination is, according to this theory, simply a normal mental process in isolation, uninhibited by other mental processes; and the isolation is produced not by dissociation but by a narrowing of the field of attention.